Microsoft

.net developer training

Create XML Web Services and Applications with Visual Studio .NET

Migrating Applications to .NET

Module 15 Agenda
Migration Types

- Migrating Visual Basic® applications
- Migrating ASP/Visual BasicScript applications
- Migrating Java applications to Visual C#™
- Migrating Visual C# to Visual Basic .NET

Top 5 Things To Know About Migrating Applications

- Recognize upgrading is not free
- Practice upgrading and start simple
- Upgrade one step at a time
- Look for help from available resources
- Have fun with .NET

.NET Benefits

- Built from the ground on .NET
  - Full, direct access to the .NET Framework
  - Inheritance
  - Language interoperability
  - No DLL Hell
- Improved RAD experience
  - RAD for Windows®, Web and server
- More Power
  - No ‘Visual Basic 6 glass ceiling’

Application Selection

- **Start small**
  - **Don’t start with large multi-tier applications**
- **Review technologies in applications**
  - **Some things upgrade well**
    - **Language features (DLLs, modules, classes, etc…)**
    - **ADO and ADO databinding, ActiveX controls and references**
    - **2-tier and 3- tier applications**
    - **ASP front-end applications**

Application Selection

- Add-ins
- Games or applications that rely on performance specific features of Visual Basic 6
- ActiveX® DHTML applications, ActiveX documents
- Legacy 1-tier access database with DAO databinding
- Applications that hook into low-level Windows features (message loops, services and memory)
- Applications that intentionally go outside the bounds of Visual Basic 6
- These applications require more manual work

Steps for the Upgrade Process

- Learn Visual Basic .NET
- Perform the upgrade
  - Run the application through the migration tool (see next slides)
    - Upgrade client first
    - Upgrade Business Objects and Data Objects last
  - Get application working one piece at a time
  - Why this order?

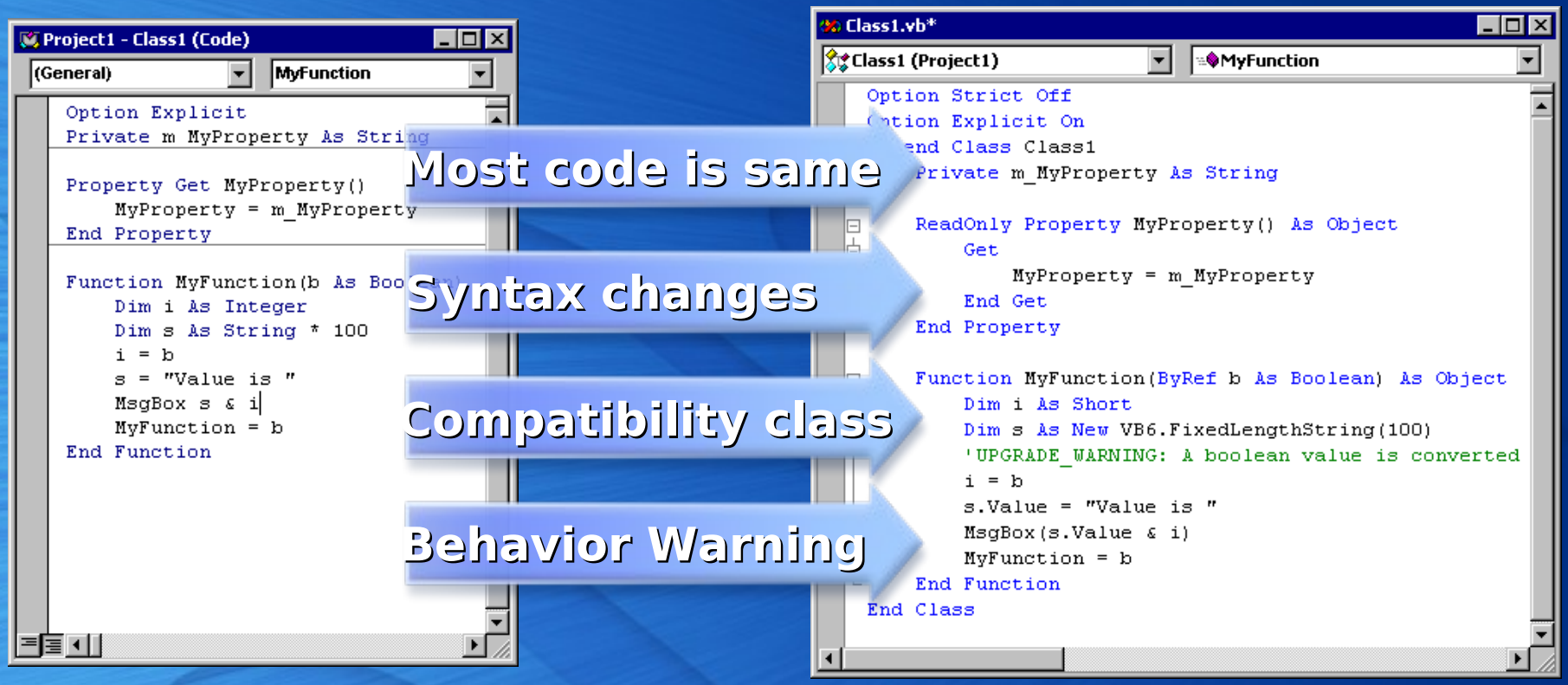
Visual Basic .NET Upgrade Tool

- Upgrades Visual Basic 6 projects opened in Visual Basic .NET
  - Creates new Visual Basic .NET project
  - Existing Visual Basic 6 project left unchanged
- Upgrade tool focus
  - Language syntax changes
  - Visual Basic 6 forms and user controls
  - Middle-tier components
  - Web classes

Visual Basic 6 Upgrade Options

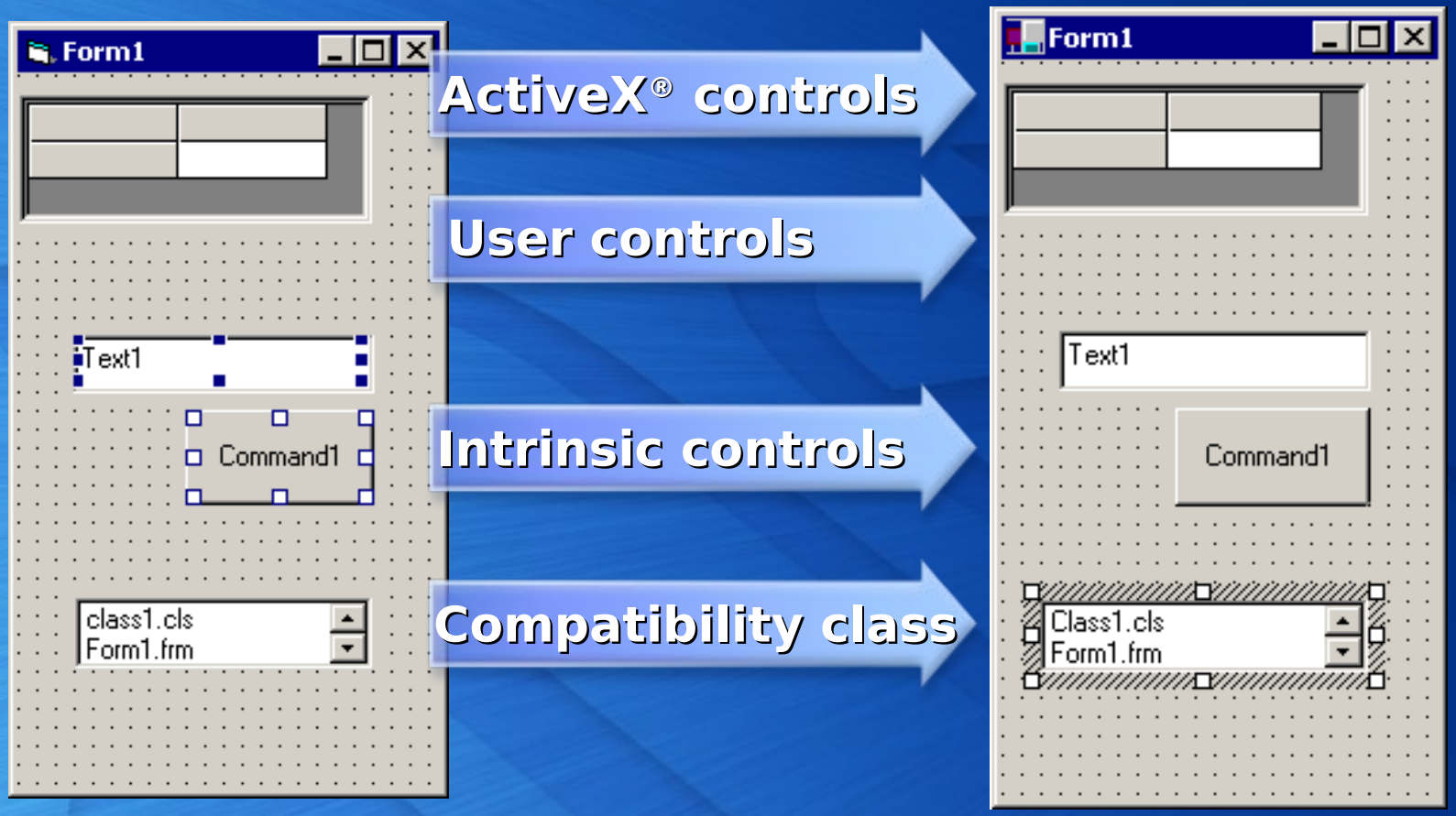
- Upgrading is not a requirement
  - Leave existing code in Visual Basic 6
    - Continue developing in Visual Basic 6 or
    - Interop between Visual Basic 6 and Visual Basic .NET
  - Upgrade code to Visual Basic .NET
- Considerations
  - Application architecture and technologies
  - Benefits of .NET
    - Multi-language development
    - No DLL Hell
    - Code Access Security

Visual Basic .NET Upgrade Tool
Language Upgrade



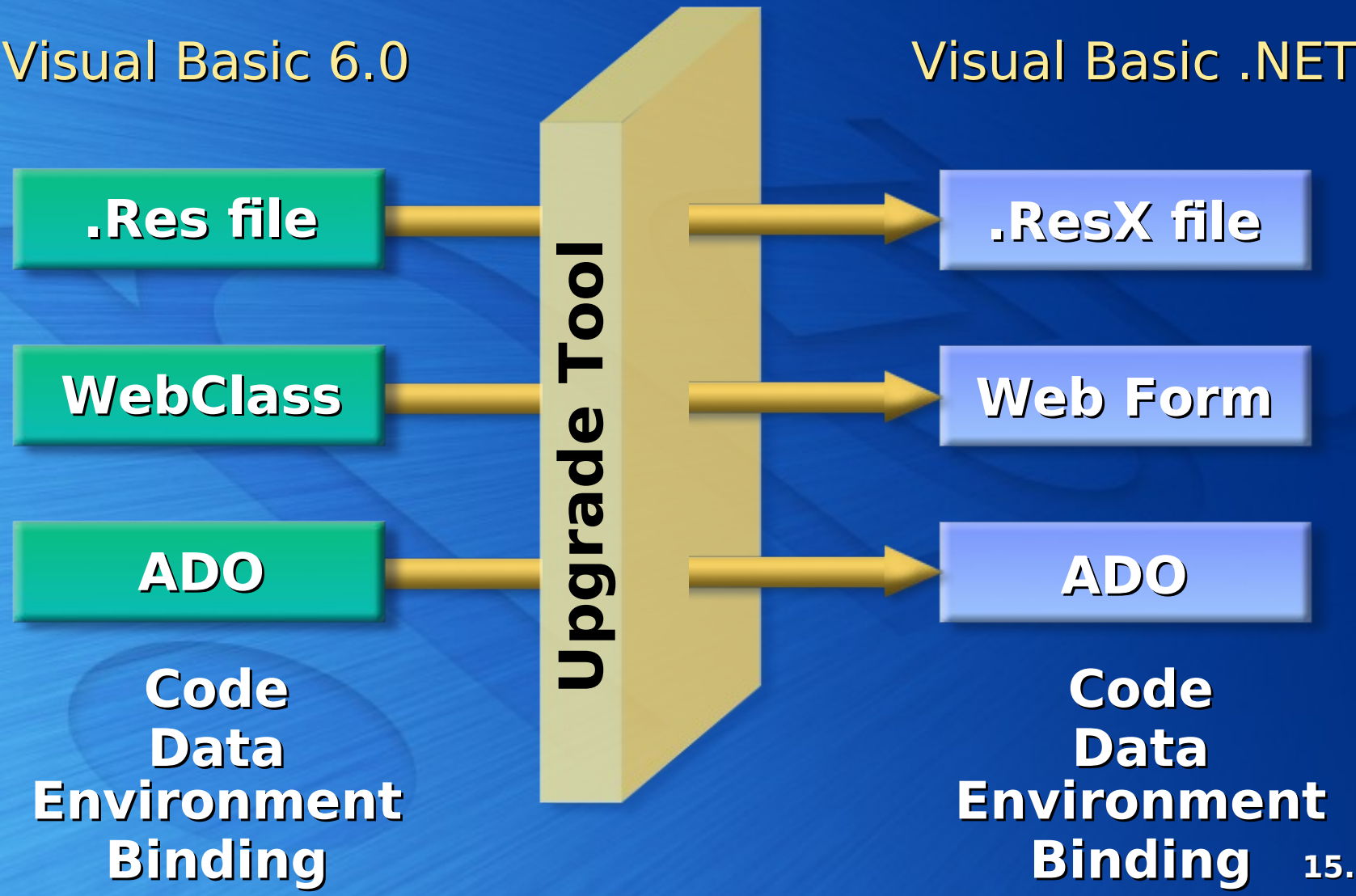
http://msdn.microsoft.com/vbasic/technical/upgrade

Visual Basic .NET Upgrade Tool
Form Upgrade



Visual Basic .NET Upgrade Tool

Upgrading Other Objects



Visual Basic .NET Upgrade Tool
Requires Manual Upgrade to .NET

- ActiveX documents
- DHTML ActiveX designer pages
- DAO and RDO databinding
- OLE, shape controls
  - Non-horizontal, non-vertical lines
- Property pages
- Add-in extensibility
- Language features
  - LSet, ObjPtr, VarPtr, StrPtr
  - GoSub and Return, Computed Goto

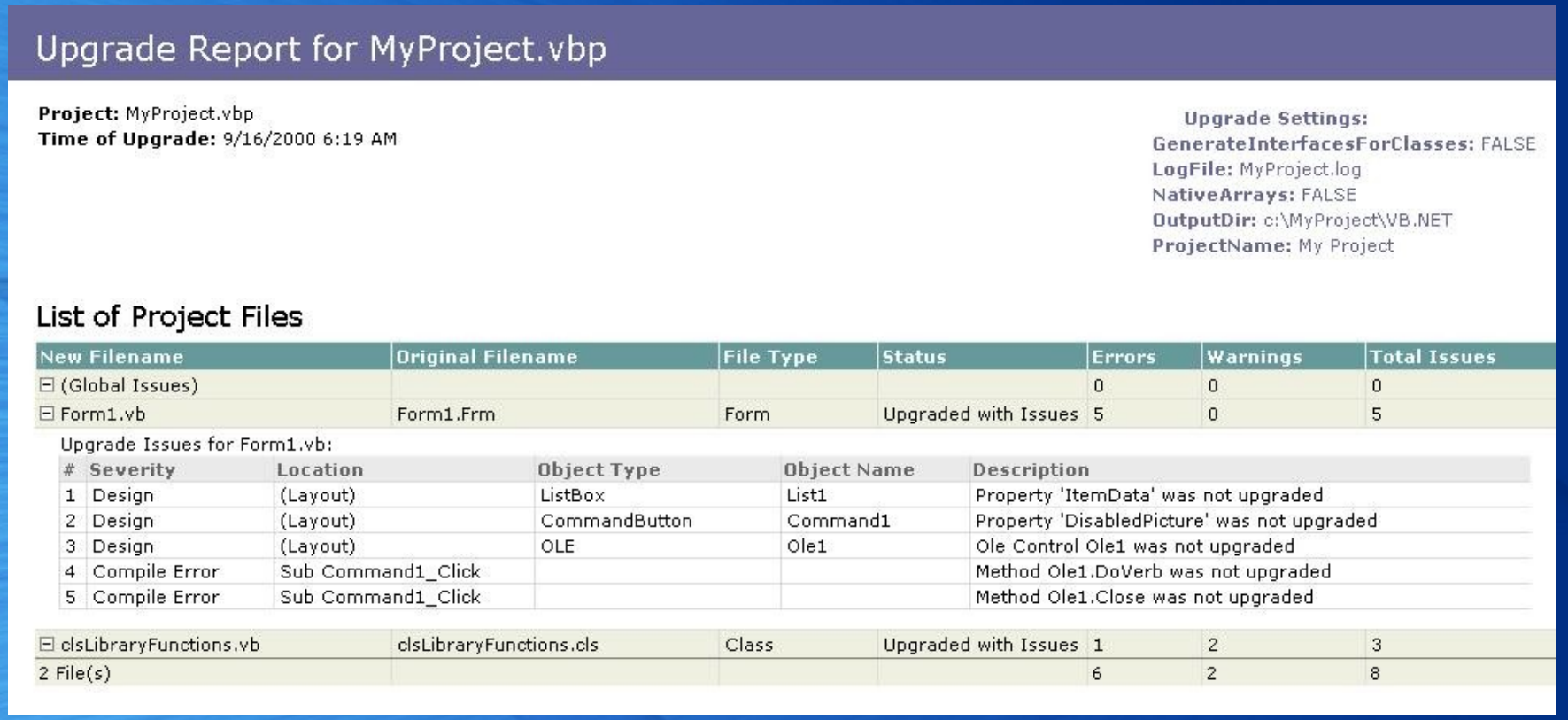
Visual Basic .NET Upgrade Tool
TODO Comments

- **Assist developers when:**
  - **No automatic upgrade**
  - **Behavior differences**
- **Summarized in Upgrade report**

```
'Visual Basic6
Dim t1 As Type1
Dim t2 As Type2
LSet t1 = t2
```

```
'Visual Basic.NET
Dim t1 As Type1
Dim t2 As Type2
'UPGRADE_ISSUE: LSet can't assign a UDT of one
type to another
LSet t1 = t2
```

Visual Basic .NET Upgrade Tool
Upgrade Report



Upgrade Report for MyProject.vbp

Project: MyProject.vbp
Time of Upgrade: 9/16/2000 6:19 AM

Upgrade Settings:
GenerateInterfacesForClasses: FALSE
LogFile: MyProject.log
NativeArrays: FALSE
OutputDir: c:\MyProject\VB.NET
ProjectName: My Project

List of Project Files

New Filename	Original Filename	File Type	Status	Errors	Warnings	Total Issues
⊟ (Global Issues)				0	0	0
⊟ Form1.vb	Form1.Frm	Form	Upgraded with Issues	5	0	5

Upgrade Issues for Form1.vb:

#	Severity	Location	Object Type	Object Name	Description
1	Design	(Layout)	ListBox	List1	Property 'ItemData' was not upgraded
2	Design	(Layout)	CommandButton	Command1	Property 'DisabledPicture' was not upgraded
3	Design	(Layout)	OLE	Ole1	Ole Control Ole1 was not upgraded
4	Compile Error	Sub Command1_Click			Method Ole1.DoVerb was not upgraded
5	Compile Error	Sub Command1_Click			Method Ole1.Close was not upgraded

⊟ clsLibraryFunctions.vb	clsLibraryFunctions.cls	Class	Upgraded with Issues	1	2	3
2 File(s)				6	2	8

- Generated after the upgrade is complete
- Provides information on upgrade process

Visual Basic .NET Upgrade Tool
Demo

- Using Visual Basic .NET Upgrade Tool
- Show features and demonstrate Visual Basic .NET Upgrade Tool

Visual Basic .NET Upgrade Tool
Fixing Errors Found During Upgrade

- Architectural errors
- Syntax/behavior errors (90% of errors)
- Compile errors with no note
- Runtime errors

Visual Basic .NET Upgrade Tool
Improving the Application

- Forms
  - In-place menu editor/anchoring/ accessibility/Tab ordering/databinding
- Server features
  - Perfmon counters/filesystem watcher
- Language/Framework
  - Inheritance/structured exception handling/ADO .NET and Web services
- Editor
  - Background compilation

ASP Applications to ASP .NET (.asp to .aspx)

- Requires manual upgrading
  - May be simple or complex
    - Depends on structure of existing applications

Java to .NET

- JUMP to .NET
  - A migration path to .NET for Java users
  - Consists of three sets of tools and a service offering:
    - Support for programming tools
    - Interoperability tools
    - Automated conversion from Java language source code to Visual C#
    - Migration services

Visual C# to Visual Basic .NET

- **Free tool from Microsoft**
  - **Designed to let Visual Basic .NET developers easily use Visual C# samples**
  - **Visual Basic .NET Windows Forms version is easy to use**
  - **Web Forms version easy to use as well**
  - **Hook it up to a macro in the IDE for Alt-B pasting**

Visual C# to Visual Basic .NET
Demo

- C#toVisual Basic .NET
- Show the tool and convert a C# file

Summary

- Pick application carefully
  - Start small
  - Map steps
- The upgrade tools are available for several languages to make your job easier
- There are many benefits in moving to .NET that make the migration worthwhile

Resources

- ***Upgrading Visual Basic 6.0 Applications to Visual Basic .NET. The basics in upgrading.***
  A good starting place to get recommendations for upgrading your Visual Basic6 Applications to Visual Basic .NET
  http://msdn.microsoft.com/vstudio/nextgen/Technology/vbupgrade.asp
- ***Preparing Your Visual Basic 6.0 Applications for the Upgrade to Visual Basic .NET***
  A developer's guide to getting ready for migrating Visual Basic6 applications

Resources

- *Migrating ASP applications to ASP.NET*
  Short article on the how-to's of moving from ASP to ASP .NET
  http://msdn.microsoft.com/library/dotnet/cpguide/cpconmigratingasppagestoasp.htm
- Migrating to ASP .NET: Key Considerations
  http://msdn.microsoft.com/library/default.asp?url=/library/en-us/Dnaspp/html/aspnetmigrissues.asp?frame=true
- Java User Migration Path to Microsoft .NET (JUMP to .NET)
  http://msdn.microsoft.com/visualj/jump/faq.asp

In-Depth Training on Migrating to .NET

Direct from Microsoft

- **2373A: Programming with Microsoft Visual Basic .NET (Prerelease)**
  - **Available August 2001**

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